

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

## PCT

### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/GB2004/004814

International filing date (day/month/year)  
17.11.2004

Priority date (day/month/year)  
28.11.2003

International Patent Classification (IPC) or both national classification and IPC  
F02M27/04, F23K5/08

Applicant  
MAXSYS LIMITED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.  
PCT/GB2004/004814

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/GB2004/004814

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	
	No: Claims	1-24
Inventive step (IS)	Yes: Claims	
	No: Claims	1-24
Industrial applicability (IA)	Yes: Claims	1-24
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

Reference is made to the following documents:

D1: EP-A-0.976.682

D2: WO-A-98/02656

D3: FR-A-2.706.949

D4: GB-A-2.221.173

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of the independent claims 1-4 and 10 is not new in the sense of Article 33(2) PCT. The reasons for this being as follows:

The document D1 discloses (the references in parentheses applying to this document):

**For claim 1:**

A magnetic fluid treatment device (10) comprising at least one fluid channel (36,38), the or each fluid channel having at least two peripherally located magnets (16,18,20,22), the device being adapted to co-operate with a fluid supply conduit (12), so that, in use, fluid flowing through the fluid channel is subjected to a magnetic field; wherein the at least two magnets (18) are located on opposite sides of the or each fluid channel and have a separation of less than about 90 mm.

(see col.4, par.27; col.5, par. 33; figs. 1,2)

*as - is novelty destroying*

**For claim 2:**

A magnetic fluid treatment device (10) comprising at least one fluid channel (36,38), the or each fluid channel having at least one peripherally located magnet (18); the device being adapted to cooperate with a fluid supply conduit (32), so that, in use, fluid flowing through the fluid channel is subjected to a magnetic field; the ratio of the cross-sectional area of the fluid supply conduit (32) to the total cross-sectional area of the fluid channel or all of the fluid channels (36,38) being in the range substantially 1:1.1 to substantially 1:2.8.

(see col.5, par.36; figs. 3-5)

*does not denote "cross-sectional area" at all, not novelty destroying.*

For claim 4:

A magnetic fluid treatment device comprising at least one fluid channel, the or each fluid channel having at least one peripherally located magnet, the device being adapted to co-operate with a fluid supply conduit, so that, in use, fluid flowing through the fluid channel is subjected to a magnetic field; wherein a magnetic field strength in a section of the at least one fluid channel along which the at least one magnet extends is between substantially 0.02T and substantially 1.0T (=200 Gauss- 10.000 Gauss).

(see col.5, par.35)

*but it only says the magnet has this field strength, not the section magnet  
the field strength is in section of pipe - different*

The document D2 discloses (the references in parentheses applying to this document):

For claim 3:

A magnetic fluid treatment device (1) comprising at least one fluid channel (7), the fluid channel having at least one peripherally located magnet (14,15), the device being adapted to co-operate with a fluid supply conduit (4), so that, in use, fluid flowing through the fluid channel is subjected to a magnetic field; wherein a ratio of the width of the fluid supply conduit (4) to the length of a section of the at least one fluid channel along which the at least one magnet extends is in the range of substantially 1:20 to substantially 1:40

(see page 8, line 30- page 9, line 23; figure 1)

For claim 10:

A magnetic fluid treatment device comprising at least one fluid channel, the or each fluid channel having at least one peripherally located magnet (14,15), wherein the at least one magnet is removably received in a body section (16) of the device.

(see page 9, line 27- 35; figure 3)

Dependent claims 5-9 and 11-24 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and inventive step too.

See the documents D1-D4 and the corresponding passages cited in the search report.